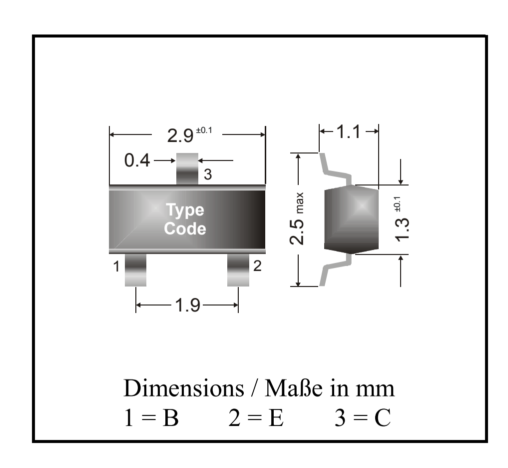


NPN	Surface mount Si-Epitaxial PlanarTransistors Si-Epitaxial PlanarTransistoren für die Oberflächenmontage	NPN



Dimensions / Maße in mm
1 = B 2 = E 3 = C

Power dissipation – Verlustleistung	250 mW
Plastic case Kunststoffgehäuse	SOT-23 (TO-236)
Weight approx. – Gewicht ca.	0.01 g

Plastic material has UL classification 94V-0
Gehäusematerial UL94V-0 klassifiziert

Standard packaging taped and reeled
Standard Lieferform gegurtet auf Rolle

Maximum ratings ($T_A = 25^\circ C$) **Grenzwerte ($T_A = 25^\circ C$)**

			BCW 65	BCW 66
Collector-Emitter-voltage	B open	V_{CE0}	32 V	45 V
Collector-Base-voltage	E open	V_{CB0}	60 V	75 V
Emitter-Base-voltage	C open	V_{EB0}	5 V	
Power dissipation – Verlustleistung		P_{tot}	250 mW [1])	
Collector current – Kollektorstrom (DC)		I_C	800 mA	
Peak Collector current – Kollektor-Spitzenstrom		I_{CM}	1000 mA	
Base current – Basis-Spitzenstrom		I_B	100 mA	
Peak Base current – Basis-Spitzenstrom		I_{BM}	200 mA	
Junction temperature – Sperrschichttemperatur		T_j	150˚C	
Storage temperature – Lagerungstemperatur		T_S	- 65…+ 150˚C	

Characteristics ($T_j = 25^\circ C$) **Kennwerte ($T_j = 25^\circ C$)**

			Min.	Typ.	Max.
Collector-Base cutoff current – Kollektorreststrom					
$I_E = 0$, $V_{CB} = 32$ V	BCW 65	I_{CB0}	–	–	20 nA
$I_E = 0$, $V_{CB} = 32$ V, $T_j = 150^\circ C$	BCW 65	I_{CB0}	–	–	20 µA
$I_E = 0$, $V_{CB} = 45$ V	BCW 66	I_{CB0}	–	–	20 nA
$I_E = 0$, $V_{CB} = 45$ V, $T_j = 150^\circ C$	BCW 66	I_{CB0}	–	–	20 µA
Emitter-Base cutoff current – Emitterreststrom					
$I_C = 0$, $V_{EB} = 4$ V		I_{EB0}	–	–	20 nA

[1]) Mounted on P.C. board with 3 mm² copper pad at each terminal
Montage auf Leiterplatte mit 3 mm² Kupferbelag (Lötpad) an jedem Anschluß

Characteristics ($T_j = 25^\circ C$) **Kennwerte ($T_j = 25^\circ C$)**

			Min.	Typ.	Max.
Collector saturation volt. – Kollektor-Sättigungsspg. [1]					
I_C = 100 mA, I_B = 10 mA		V_{CEsat}	–	–	300 mV
I_C = 500 mA, I_B = 50 mA		V_{CEsat}	–	–	700 mV
Base saturation voltage – Basis-Sättigungsspannung [1]					
I_C = 100 mA, I_B = 10 mA		V_{BEsat}	–	–	1.25 V
I_C = 500 mA, I_B = 50 mA		V_{BEsat}	–	–	2 V
DC current gain – Kollektor-Basis-Stromverhältnis [1]					
V_{CE} = 10 V, I_C = 100 µA	BCW 65A / 66F	h_{FE}	35	–	–
	BCW 65B / 66G	h_{FE}	50	–	–
	BCW 65C / 66H	h_{FE}	80	–	–
V_{CE} = 1 V, I_C = 10 mA	BCW 65A / 66F	h_{FE}	75	–	–
	BCW 65B / 66G	h_{FE}	110	–	–
	BCW 65C / 66H	h_{FE}	180	–	–
V_{CE} = 1 V, I_C = 100 mA	BCW 65A / 66F	h_{FE}	100	160	250
	BCW 65B / 66G	h_{FE}	160	250	400
	BCW 65C / 66H	h_{FE}	250	350	630
V_{CE} = 2 V, I_C = 500 mA	BCW 65A / 66F	h_{FE}	–	35	–
	BCW 65B / 66G	h_{FE}	–	60	–
	BCW 65C / 66H	h_{FE}	–	100	–
Gain-Bandwidth Product – Transitfrequenz					
V_{CE} = 5 V, I_C = 50 mA, f = 100 MHz		f_T	–	170 MHz	–
Collector-Base Capacitance – Kollektor-Basis-Kapazität					
V_{CB} = 10 V, $I_E = i_e$ = 0, f = 1 MHz		C_{CB0}	–	6 pF	–
Emitter-Base Capacitance – Emitter-Basis-Kapazität					
V_{EB} = 0.5 V, $I_C = i_c$ = 0, f = 1 MHz		C_{EB0}	–	60 pF	–

Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft	R_{thA}	420 K/W [2]
Recommended complementary PNP transistors Empfohlene komplementäre PNP-Transistoren	BCW 67, BCW 68	

Marking – Stempelung	BCW 65A = EA	BCW 65B = EB	BCW 65C = EC
	BCW 66F = EF	BCW 66G = EG	BCW 66H = EH

[1]) Tested with pulses t_p = 300 µs, duty cycle ≤ 2% – Gemessen mit Impulsen t_p = 300 µs, Schaltverhältnis ≤ 2%
[2]) Mounted on P.C. board with 3 mm^2 copper pad at each terminal
Montage auf Leiterplatte mit 3 mm^2 Kupferbelag (Lötpad) an jedem Anschluß